

REMARKS

This Amendment is in response to Office Action mailed January 24, 2003. Reconsideration of the application with an eye toward allowance is respectfully requested.

Applicant has provided a replacement Abstract as requested by the examiner and has amended the title by rewriting the title to more nearly identify the subject matter of the allowed claims. Applicant submits that the title and abstract are supported by the disclosure as filed and do not introduce new matter.

Claims 11-13 were indicated as being objected to but would be allowable if certain typographical and grammatical corrections (informalities) were made to the claims, namely that "in phase" be amended to the hyphenated "in-phase". Applicant has made this typographical correction to place the claim in condition for allowance though the two forms would appear to be equivalent.

Applicant has also grammatically corrected Claim 13 by adding the indefinite article "an" to element (a), and the indefinite article "a" to element (b). Applicant has further corrected the typographical or word tense error to the preamble of Claim 13 by changing "Keyed" to --Keying--. Applicant submits that the amendments made here are mere typographical or grammatical corrections pertaining to formalities and none are directed to patentability.

A copy of the claims showing the amendments made is attached hereto under the title **"Version of the Claims Showing Amendments"**. A version of the title before and after amendment is shown on the attached sheet entitled **"Version Showing Amendments to the Title"**. The replacement Abstract has been rewritten and is shown on the attached separate ABSTRACT page.

Applicant has canceled without prejudice or disclaimer pending claims 1-10 and 14-20 for the purpose of advancing the allowable claims 11-13 to allowance to more expeditiously satisfy business goals associated with licensing of the allowable claims and reserves the right to present and prosecute the cancelled claims without prejudice in a different related application. The cancellation

of these claims moots the other bases for rejection and places all currently pending claims in condition for allowance. Applicant requests such allowance.

In the event that the examiner identifies any issue that would prevent issuance of a Notice of Allowance, the courtesy of a telephone call to the undersigned attorney would be appreciated.

The Commissioner is hereby authorized to charge any additional fees which may be required by this Amendment, or to credit any overpayment, to Deposit Account No. 50-2319 (No. A-66732-1/RMA).

Signed this 11th day of March, 2003, at Palo Alto, California.

RESPECTFULLY SUBMITTED,
DORSEY & WHITNEY LLP

By: R. Michael Ananian
R. Michael Ananian
Reg. No. 35,050
Filed under Rule 1.34(a)

4 Embarcadero Center, Suite 3400
San Francisco, CA 94111-4187
(650) 494-8700
1052168

25 95

USSN 09/370,361 (A-66732-1) - 7 -

1052168

Version Showing Amendments to the Title

Replace the original title:

~~Feher's Quadrature Phase Shift Keying (QPSK) Transceiver and Method for
Transmitting, Receiving, and Processing Signals Therewith~~

With the new title with the new title:

SYSTEM AND METHOD FOR INTEROPERABLE MULTIPLE-STANDARD MODULATION AND
CODE SELECTABLE FEHER'S GMSK, ENHANCED GSM, CSMA, TDMA, OFDM, AND
THIRD-GENERATION CDMA, W-CDMA AND B-CDMA

Version of the Claims Showing Amendments

Claims 1-10 and 14-20 were cancelled without prejudice or disclaimer.

Claims 11-13 were amended as follows:

11. (Amended) A structure for trellis coding and decoding, of extended memory Bit Rate Agile (BRA), Modulation-Demodulation (Modem) Format Selectable (MFS) and Code Selectable (CS) input port for receiving input data comprising:

a trellis encoder;

a BRA, MFS and CS splitter having an input coupled to said input port, and serving to split said input data into baseband signal streams;

a BRA, MFS and CS baseband signal processing network for receiving said baseband signal streams and providing BRA, MFS and CS in-phase (I) and quadrature (Q) phase baseband signals to the I and Q input ports of the transmitter;

means for baseband signal processing for receiving said baseband signal streams and providing for BRA, MFS and CS systems changeable amounts of cross-correlation;

means for selectively reducing the cross-correlating factor down to zero between Time Constrained Signal (TCS) response processors combined with TCS and Long Response (LR) processors;

a receiver port for connection of the received cross-correlated signal to the BRA and MFS demodulator;

a BRA and MFS quadrature demodulator; and

a Mis-Matched (MM) BRA and MFS demodulator filter set in which the said demodulator filter set is MM to that of the BRA and MFS filter set of the modulator.

12. (Amended) A cross correlated quadrature architecture signal processor for producing Bit Rate Agile (BRA), cross-correlated in-phase and quadrature phase signal streams for modulation by a Quadrature Modulator and transmission and for signal demodulation comprising:

- (a) means for receiving an input BRA signal selected from the group of binary, multi-level, and analog signals and combinations thereof;
- (b) filtering means of the BRA input signal;
- (c) BRA signal shaping means for said filtered input signal;
- (d) amplification means for varying the modulation index of said BRA signal, said amplifier receiving said filtered input signal and providing an amplified input signal;
- (e) means for BRA signal splitting for receiving said amplified input signal;
- (f) cross correlation means of BRA data streams; and a BRA signal processor means having an in-phase and quadrature phase channel each receiving one of said cross-correlated data streams, each of said in-phase and quadrature phase channel having a first delay gain filter, means for generating BRA Cosine and BRA Sine values for said in-phase and quadrature phase channel data stream;
- (g) a BRA wave shaper and a second BRA delay gain filter, such that said signal processor provides in-phase and quadrature phase cross correlated data signal processor;
- (h) means for quadrature modulation with a BRA modulated signal adaptable for coherent or non-coherent demodulation of the quadrature BRA Frequency Modulated (FM) signal;
- (i) controlling means and signal selection means for BRA rate processor selection;
- (j) selection means for Linear and/or Non-Linearly Amplified (NLA) baseband and/or of modulated signals coupling port means to the transmission medium;
- (k) receiver port means for connection of one or more received cross-correlated signals to the BRA demodulator;
- (l) BRA demodulator means; and
- (m) Mis-Matched (MM) demodulator filtering means for BRA, MFS and CS demodulation in which the said demodulator filter set is MM to that of the BRA, MFS and BRA filter set of the modulator.

13. (Amended) A signal processing, modulation, transmission, signal reception and demodulation system, designated as Feher's Gaussian Minimum Shift ~~Keyed~~ Keying (GMSK) for Bit Rate Agile (BRA), Modulation Demodulation (Modem) Format Selectable (MFS) and Code Selectable (CS) systems comprising:

- (a) an input port for receiving input data;
- (b) a Gaussian low-pass filter and presetable gain integrator for processing said input data and providing filtered input data;
- (c) a splitter having an input coupled to said input port, and serving to split said filtered input data into in-phase (I) and quadrature phase (Q) channel cross coupled data streams such that said I and Q data streams are proportional in gain and phase to said input data;
- (d) a signal processing network for receiving said I and Q channel data streams and providing processed in-phase and quadrature phase signals, said signal processing network including a signal processor for varying the modulation index for said signal processing network;
- (e) means for generating Cosine and Sine values for said I and Q channel BRA, MFS and CS data streams;
- (f) means for filtering by bit rate agile FIR or IIR or switched filter and/or other post GMSK shaping filters said signals in the I and Q channels such that said signal processor provides in-phase and quadrature phase cross correlated data signals for quadrature modulation with a modulated signal suitable for amplification in linear and non-linear mode;
- (g) means for providing the amplified signal to the transmission port;
- (h) a receiver port for connection of the received cross-correlated signal to the BRA and MFS demodulator;
- (i) a BRA and MFS quadrature demodulator; and
- (j) a Mis-Matched (MM) BRA and MFS demodulator filter set in which the said demodulator filter set is MM to that of the BRA and MFS filter set of the modulator.